

The Examiner rejected claims 23-25, 27, 29-33, 35-37, 39-43, and 45-50 under 35 U.S.C. §112, second paragraph.

The Examiner rejected claims 23, 25, 27, 29, 32, 35, 36, 40-43, 45, and 50 under 35 U.S.C. §102(b) as being anticipated by Johnson (US Patent 4,747,897).

The Examiner rejected claims 24, 33, and 46-48 under 35 U.S.C. §103(a) as being unpatentable over Johnson and further in view of the admitted prior art (Specification pages 1-3 and page 8, lines 10-13).

The Examiner rejected claim 30 under 35 U.S.C. §103(a) as being unpatentable over Johnson, and further in view of Hanson (U.S. Patent 4,670,089).

The Examiner rejected claim 37 under 35 U.S.C. §103(a) as being unpatentable over Johnson, and further in view of Ueno et al. (U.S. Patent 4,765,860) and Kusano et al. (U.S. Patent 5,425,832).

The Examiner rejected claims 31, 39, and 49 under 35 U.S.C. §103(a) as being unpatentable over Johnson and further in view of Kodokian (U.S. Patent 5,762,741).

Applicants respectfully traverse the §112, §102, and §103 rejections with the following arguments.

35 U.S.C. §112

The Examiner rejected claims 23-25, 27, 29-33, 35-37, 39-43, and 45-50 under 35 U.S.C. §112, second paragraph. The Examiner also objected to claim 50.

Since claims 37, 30, and 50 are cancelled herein, the rejection of claims 37, 30, and 50 under 35 U.S.C. §112, second paragraph is moot.

Claim 23 has been amended in a manner that gives consideration to the rejection of claim 23 and the objection to claim 50. Specifically, the Examiner alleged that the phrase “wherein the fluoropolymer matrix is interfaced between the conductor and the remaining layer of resin following said laminating” in claim 23 is unclear and confusing allegedly because of the word “interfaced”. The Examiner stated that he is interpreting said phrase to mean that “the conductor and the remaining layer of resin are disposed on opposite sides of the resin-impregnated fluoropolymer matrix following the laminating step”, which is the exact language that appears in claim 50. Additionally, the Examiner objected to claim 50, alleging that claim 50 does further limit claim 23. Thus, the Examiner appears to be interpreting claim 23 as having the same meaning as claim 50, except that the Examiner alleges that the language of claim 23 is unclear. Although Applicants consider the language of claim 23 to be clear, Applicants have nonetheless amended claim 23 and cancelled claim 50 to accommodate the Examiner’s preference, so as to replace the objected-to phrase in claim 23 (i.e., the phrase containing “interfaced”) with the allegedly clearer phrase in claim 50.

Based on the preceding discussion of claims 23 and 50, Applicants respectfully request that the Examiner enter the amendment herein of claim 23, and the cancellation of claim 50, to place the claims in better condition for appeal.

The Examiner rejected claim 48, alleging that “[t]he term ‘about’ in claim 48 is a relative term which renders the claim indefinite. The term ‘about’ is not defined in the claim, the specification does not provide a standard for ascertaining the degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear as to the tolerance ‘about’ gives to the diameter. It is suggested to delete ‘about’ from the claim.” In

response, Applicants respectfully contend that claims containing ‘about’ are regularly issued by the United States Patent and Trademark Office, and thousands if not hundreds of thousands of claims containing ‘about’ exist in issued patents, wherein the specification does not define ‘about’. Thus, the Examiner’s objection to claim 48 is contrary to established practice by the United States Patent and Trademark Office and is effectively discriminating unfairly against Applicants as compared with many other Applicants whose use of ‘about’ in claims has been accepted.

35 U.S.C. §102

The Examiner rejected claims 23, 25, 27, 29, 32, 35, 36, 40-43, 45, and 50 under 35 U.S.C. §102(b) as being anticipated by Johnson (US Patent 4,747,897). In response, Applicants will next demonstrate that the Examiner’s basis for rejecting claim 23 does not prove that Johnson anticipates claim 23.

First, the Examiner alleges that Johnson teaches the feature “providing a fluoropolymer matrix having particles therein” of claim 23, citing col. 3, lines 5-15 of Johnson for support.

Second, the Examiner alleges that Johnson teaches the feature “coating a thermosetting resin on the fluoropolymer matrix” of claim 23, citing col. 6, lines 29-31 of Johnson for support. The Examiner further cites col. 7, lines 37-41 of Johnson which recites: “when the liquid epoxy resin was coated on the treated fabric, it wet the fabric and filled the interstices between the fibers to form a level, even coating over the fabric surface”.

Third, the Examiner alleges that Johnson teaches the feature “processing the fluoropolymer matrix with the resin coated thereon such that material from the resin impregnates

the fluoropolymer matrix, leaving a remaining layer of resin on a surface of the fluoropolymer matrix, wherein the remaining layer of resin comprises material of the resin that has not impregnated the fluoropolymer matrix" in claim 23, citing col. 6, lines 32-34 of Johnson for support ("The coated fabric is heated in heater 26 to cure the resin to at least the B-stage cured or pre-preg sheet 29, and this sheet is cut into individual pre-preg sheets 30 by cutter 28."). Thus, as a result of the "processing" step of claim 23. Pre-peg sheets 30 have been formed and said pre-peg sheets 30 comprise the resin. Herein is a first problem with Examiner's argument, because Johnson does not teach that the "remaining layer of resin" still exists following the processing step (i.e., the B-staged curing step), whereas the subsequent "laminating" step of claim 23 requires the existence of the "remaining layer of resin".

Fourth, the Examiner alleges that Johnson teaches the feature "laminating the resin-impregnated fluoropolymer matrix to a conductor, wherein the conductor and the remaining layer of resin are disposed on opposite sides of the resin-impregnated fluoropolymer matrix following the laminating step" (emphasis added) of claim 23, citing col. 6, lines 47-53 of Johnson for support. Applicants contend that col. 6, lines 47-53 of Johnson discloses that the B-staged curing step is followed by a C-staged cure of pre-peg sheets 30 to form a composite 34, wherein the composite 34 is **homogeneous** with respect to the resin, which means that the "remaining layer of resin" has lost its identity does not exist in the composite 34 following the "laminating" step. Since claim 23 requires the existence of the "remaining layer of resin" following the laminating step, the Examiner has not proved that Johnson teaches each and every feature of claim 23.

Fifth, the Examiner alleges that "a layer of resin is present on each surface of the

dielectric material (bonded or not) after lamination (Column 8, lines 1-4).” Applicants contend, however, that col. 8, lines 1-4 of Johnson recites: “Microscopic examination of cross sections of the laminated composite showed a uniform distribution of epoxy resin around the fibers, within the interstices of the fabric and between the layers of fabric” (emphasis) added, which confirms that the C-staged curing forms a composite 34 that is homogeneous with respect to the resin. Such a uniform or homogeneous distribution of resin around the fibers cannot reasonably be viewed as a layer of resin. However, even if said uniform or homogeneous distribution of resin around the fibers is considered to be a layer of resin, it is not the same layer of resin that previously existed upon being formed in the prior processing step. What is critical is that claim 23 requires that the same layer of resin that was formed on a surface of the fluoropolymer matrix in the “processing” step still exist as disposed on a side of the fluoropolymer matrix following the “laminating” step, and not as a resin that is homogeneously distributed within and throughout the fibers. Thus, Applicants have demonstrated that the Examiner has not proved that Johnson teaches each and every feature of claim 23.

Applicants contend that the Examiner has not supported, and has not even alleged, that Johnson teaches the feature “wherein the conductor and the remaining layer of resin are disposed on opposite sides of the resin-impregnated fluoropolymer matrix following the laminating step”, which further supports Applicants’ contention that the Examiner has not proved that Johnson teaches each and every feature of claim 23.

Based on the preceding arguments, Applicants respectfully maintain that Johnson does not anticipate claim 23, and that claim 23 is in condition for allowance. Since claims 24-25, 29, 31-33, 35-37, 39-43 and 45-49 depend from claim 23, Applicants contend that claims 24-25, 29,

31-33, 35-37, 39-43 and 45-49 are likewise in condition for allowance.

35 U.S.C. §103

The Examiner rejected claims 24, 30, 31, 33, 37, 39, and 46-49 under 35 U.S.C. §103(a). Since 30 has been cancelled, Applicants contend that the rejection of claim 30 is moot. Since claims 24, 31, 33, 37, 39, and 46-49 depend from claim 23, which Applicants have *supra* argued to be patentable under 35 U.S.C. §102, Applicants maintain that claims 24, 31, 33, 37, 39, and 46-49 are not unpatentable under 35 U.S.C. §103(a).

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below.

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Appendix A. Identification of Amended Material

Please amend claim 23 as follows:

23. (AMENDED) A method for forming a device, comprising the following steps:

providing a fluoropolymer matrix having particles therein;

coating a thermosetting resin on the fluoropolymer matrix;

processing the fluoropolymer matrix with the resin coated thereon such that material from the resin impregnates the fluoropolymer matrix, leaving a remaining layer of resin on a surface of the fluoropolymer matrix, wherein the remaining layer of resin comprises material of the resin that has not impregnated the fluoropolymer matrix; and

laminating the resin-impregnated fluoropolymer matrix to a conductor, [wherein the fluoropolymer matrix is interfaced between the conductor and the remaining layer of resin following said laminating] wherein the conductor and the remaining layer of resin are disposed on opposite sides of the resin-impregnated fluoropolymer matrix following the laminating step.